

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/JP2005/001438

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H01B1/12 H01L51/20 H01L51/30

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H01B H01L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, CHEM ABS Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>COLLARD ET AL.: "Controlling the Macromolecular Architecture of Poly(3-alkylthiophene)s by alternating Alkyl and Fluoralkyl Substituents" MACROMOLECULES, vol. 33, 22 April 2000 (2000-04-22), pages 3502-3504, XP002327217 whole document + scheme 2</p> <p>----- -/--</p>	1,2,4-18

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

9 August 2005

Date of mailing of the international search report

23.08.2005

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International Application No  
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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PILSTON R L ET AL: "TOWARD HIGHLY FLUORESCENT POLYTHIOPHENES: HEAD-TO-TAIL COUPLED COPOLYMERS OF 3-(METHOXYETHOXYETHOXYMETHYL) THIOPHENE AND 3-(PERFLUOROALKYL) THIOPHENE" SYNTHETIC METALS, ELSEVIER SEQUOIA, LAUSANNE, CH, vol. 111/112, 15 May 1989 (1989-05-15), pages 433-436, XP001151608 ISSN: 0379-6779 whole document	1,2,4-18
A	EP 1 329 474 A (XEROX CORPORATION) 23 July 2003 (2003-07-23) page 1, line 6 - page 19, line 31	1-18
X	EP 1 279 689 A (MERCK PATENT GMBH) 29 January 2003 (2003-01-29)	1,2,4-18
A	page 1, line 15 - page 9, line 38	3

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/JP2005/001438

## Box III Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1,2,4-18

Compound (oligomer/polymer) which can be completely conjugated or only partly conjugated comprising a) alkylated thiophene units and b) perfluorinated thiophene units which are separated by c) an odd number of "rings" + their use in organic thin film transistors (OFET)

2. claim: 3

Purely conjugated compound (oligomer/polymer) comprising a) alkylated thiophene units and b) perfluorinated thiophene units which are separated by c) an odd number of "rings" + their use in organic thin film transistors (OFET)

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/JP2005/001438

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 1329474	A	23-07-2003	US 2003136958 A1	24-07-2003
			EP 1329474 A1	23-07-2003
			JP 2003264327 A	19-09-2003
EP 1279689	A	29-01-2003	EP 1279689 A2	29-01-2003
			JP 2003176338 A	24-06-2003
			US 2003062509 A1	03-04-2003